

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 17 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM				ADD/MOD/SUP of the beam <input type="checkbox"/>
b. TRANSMITTING BEAM DESIGNATION		K1R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"	
		OLD BEAM DESIGNATION (if changed) 		
ANTENNA CHARACTERISTICS				
c1/d1/f1. MAXIMUM ISOTROPIC GAIN		<div style="border: 1px solid black; padding: 2px; display: inline-block;"> +/- dB + 4 4 ● 0 </div>		
g. POLARIZATION 1		c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO 01		
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO 		h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO 03		

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION EC	2b. NATURE OF SERVICE CR	2a. CLASS OF STATION 	2b. NATURE OF SERVICE 	PERIOD OF VALIDITY 20 Years
2a. CLASS OF STATION 	2b. NATURE OF SERVICE 	2a. CLASS OF STATION 	2b. NATURE OF SERVICE 	
1. SERVICE AREA OR				SERVICE AREA DIAGRAM ATTACHED 01
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED				
	Add/Mod/Sup of the freq. range	FREQUENCY	k/MG Hz	IFRB IDENTIFICATION NUMBER for modification/suppression
FROM	 	 17 ● 7 0 0 0 0 G		
TO	 	 20 ● 2 0 0 0 0 G		

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
6/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
1 2 5 M G 7 W	+/- dBW 	+/- dBW/Hz - 6 0 ● 0	+/- dBW 	+/- dBW 	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> 01 </div>

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE
STATIONS FOR SPACE-TO-SPACE RELAYSADD/MOD/SUP
of the station ☐

a. SPACE STATION NAME

 G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.: 1 MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE ☒

EARTH STATION

DESIGNATION OF TYPICAL EARTH STATION

ADD/MOD/SUP
of the station ☐8 5 c m

8b1. RADIATION PATTERN

(give reference pattern or provide diagram)

R E C 8b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.: 8a. RECEIVING
SYSTEM NOISE
TEMPERATURE2 0 0

REMARKS:

NOTES ON FILLING IN THIS PAGE:

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.

FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 18 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>				
b. TRANSMITTING BEAM DESIGNATION	K1R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"				
		OLD BEAM DESIGNATION (if changed) 				
ANTENNA CHARACTERISTICS						
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">+/-</td> <td style="padding: 2px 5px;">dBi</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">440</td> </tr> </table>	+/-	dBi	+	440	
+/-	dBi					
+	440					
g. POLARIZATION	1 D	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO				
e/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO	 	01				
		h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO				
		03				

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	EC	2b. NATURE OF SERVICE	CR	2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	
2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	 	2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	
							PERIOD OF VALIDITY
							20 Years
1. SERVICE AREA							SERVICE AREA DIAGRAM ATTACHED
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED							01
		Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression		
FROM	 		 1700000	G	 		
TO	 		 200200000	G	 		

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
8/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
	+/- dBW	+/- dBW/Hz	+/- dBW	+/- dBW	
125MG7W	-60	-60	-60	-60	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE
STATIONS FOR SPACE-TO-SPACE RELAYSADD/MOD/SUP
of the station ☐

a. SPACE STATION NAME

 G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.:1 MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE ☒

EARTH STATION

DESIGNATION OF TYPICAL EARTH STATION

ADD/MOD/SUP
of the station ☐ 120cm TERMINAL8b1. RADIATION PATTERN
(give reference pattern or provide diagram) REC S465-58a. RECEIVING
SYSTEM NOISE
TEMPERATURE 2008b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'. FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 19 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>
b. TRANSMITTING BEAM DESIGNATION	K1R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"
	OLD BEAM DESIGNATION (if changed)	<div style="border: 1px solid black; width: 50px; height: 20px; display: inline-block;"></div>
ANTENNA CHARACTERISTICS		
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">+/-</div> <div style="border: 1px solid black; padding: 2px;">dBi</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">+</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">0</div> </div>	
g. POLARIZATION	1 <div style="border: 1px solid black; padding: 2px;">D</div>	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO	<div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>	01
		h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO
		03

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	EC	2b. NATURE OF SERVICE	CR
2a. CLASS OF STATION	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	2b. NATURE OF SERVICE	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>

PERIOD OF VALIDITY

20 Years

1. SERVICE AREA

OR

SERVICE AREA DIAGRAM
ATTACHED

01

3/Fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED

	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression
FROM	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;">7</div> <div style="border: 1px solid black; padding: 2px;">7</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">G</div>	G	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>
TO	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">G</div>	G	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
6/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
1 2 5 M G 7 W	+/- dBW	+/- dBW/Hz	+/- dBW	+/- dBW	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
2 5 0 M G 7 W	<div style="border: 1px solid black; padding: 2px;">-</div> <div style="border: 1px solid black; padding: 2px;">6</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div>	<div style="border: 1px solid black; padding: 2px;">-</div> <div style="border: 1px solid black; padding: 2px;">6</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">0</div>	<div style="border: 1px solid black; padding: 2px;">-</div> <div style="border: 1px solid black; padding: 2px;">6</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div>	<div style="border: 1px solid black; padding: 2px;">-</div> <div style="border: 1px solid black; padding: 2px;">6</div> <div style="border: 1px solid black; padding: 2px;">0</div> <div style="border: 1px solid black; padding: 2px;">0</div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>
<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE
STATIONS FOR SPACE-TO-SPACE RELAYSADD/MOD/SUP
of the station☐

a. SPACE STATION NAME

G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.:

MORE EMISSIONS ON NEXT PAGE

☐MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE☒

EARTH STATION

ADD/MOD/SUP
of the station☐

DESIGNATION OF TYPICAL EARTH STATION

8b1. RADIATION PATTERN

(give reference pattern or provide diagram)

8a. RECEIVING
SYSTEM NOISE
TEMPERATURE

Kelvins

200

8b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.

FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

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SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM				ADD/MOD/SUP of the beam <input type="checkbox"/>
b. TRANSMITTING BEAM DESIGNATION		K1R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"	
		OLD BEAM DESIGNATION (if changed)		<input type="text"/>
ANTENNA CHARACTERISTICS				
c1/d1/f1. MAXIMUM ISOTROPIC GAIN		+/- dBi + 4 4 0		
g. POLARIZATION 1		D	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO 01	
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO		<input type="text"/>	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO 03	

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION EC	2b. NATURE OF SERVICE CR	2a. CLASS OF STATION <input type="text"/>	2b. NATURE OF SERVICE <input type="text"/>
2a. CLASS OF STATION <input type="text"/>	2b. NATURE OF SERVICE <input type="text"/>	2a. CLASS OF STATION <input type="text"/>	2b. NATURE OF SERVICE <input type="text"/>

PERIOD OF VALIDITY **20** Years1. SERVICE AREA ORSERVICE AREA DIAGRAM ATTACHED **01**

3/Fd. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED

	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression
FROM	<input type="text"/>	17 0 0 0 0 0	G	<input type="text"/>
TO	<input type="text"/>	20 0 0 0 0 0	G	<input type="text"/>

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO. <input type="text"/>
6/f4a3. NECESSARY BANDWIDTH OR Fd/G3a. DESIGNATION OF EMISSION 1	4a2/4b. TOTAL PEAK POWER 1	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER 1	Fd. SPACE STATION E.I.R.P. 1	
125MG7W	+/- dBW 0	+/- dBW/Hz - 6 0 0	+/- dBW 0	+/- dBW 0	<input type="text"/>
250MG7W	0	- 6 3 0	0	0	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS

ADD/MOD/SUP
of the station ☐

a. SPACE STATION NAME

G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.: 1 MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE ☒

EARTH STATION

ADD/MOD/SUP
of the station ☐

DESIGNATION OF TYPICAL EARTH STATION

300cm TERMINAL

8b1. RADIATION PATTERN

(give reference pattern or provide diagram)

REC S465-5

8a. RECEIVING SYSTEM NOISE TEMPERATURE

Kelvins

2008b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
 FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

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SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM				ADD/MOD/SUP of the beam										
b. TRANSMITTING BEAM DESIGNATION	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">K1R</div>	NOTE: For a steerable beam, the third character of the beam designation shall be "R"												
		OLD BEAM DESIGNATION (if changed)	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 20px;"></div>											
ANTENNA CHARACTERISTICS														
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">+/-</td> <td colspan="4" style="padding: 2px 5px;">dBi</td> </tr> <tr> <td style="padding: 2px 5px;">+</td> <td style="padding: 2px 5px;">4</td> <td style="padding: 2px 5px;">4</td> <td style="padding: 2px 5px;">●</td> <td style="padding: 2px 5px;">0</td> </tr> </table>				+/-	dBi				+	4	4	●	0
+/-	dBi													
+	4	4	●	0										
g. POLARIZATION	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">D</div>	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO												
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO		h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO												

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;">E C</div>	2b. NATURE OF SERVICE	<div style="border: 1px solid black; padding: 2px; display: inline-block;">C R</div>	2a. CLASS OF STATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>	2b. NATURE OF SERVICE	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>
2a. CLASS OF STATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>	2b. NATURE OF SERVICE	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>	2a. CLASS OF STATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>	2b. NATURE OF SERVICE	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div>

SERVICE AREA

PERIOD OF VALIDITY

20

 Years

SERVICE AREA DIAGRAM ATTACHED

01

3/Fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED

[illegible]

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

[illegible]

F. SPACE STATION		ADD/MOD/SUP of the station	<input type="checkbox"/>
CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS			
<p>a. SPACE STATION NAME</p> <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div>			
G3c. BEACON AND TELEMETRY INFORMATION ATTACHED. SEE ATTACHMENT NO.: 1		<input type="checkbox"/> <input type="checkbox"/>	
MORE EMISSIONS ON NEXT PAGE	<input type="checkbox"/>	MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE	<input type="checkbox"/>

EARTH STATION	ADD/MOD/SUP of the station <div style="border: 1px solid black; width: 40px; height: 30px; float: right;"></div>
DESIGNATION OF TYPICAL EARTH STATION	
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px 5px;">4</div> <div style="border: 1px solid black; padding: 2px 5px;">5</div> <div style="border: 1px solid black; padding: 2px 5px;">0</div> <div style="border: 1px solid black; padding: 2px 5px;">c</div> <div style="border: 1px solid black; padding: 2px 5px;">m</div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;">T</div> <div style="border: 1px solid black; padding: 2px 5px;">E</div> <div style="border: 1px solid black; padding: 2px 5px;">R</div> <div style="border: 1px solid black; padding: 2px 5px;">M</div> <div style="border: 1px solid black; padding: 2px 5px;">I</div> <div style="border: 1px solid black; padding: 2px 5px;">N</div> <div style="border: 1px solid black; padding: 2px 5px;">A</div> <div style="border: 1px solid black; padding: 2px 5px;">L</div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> </div>	
8b1. RADIATION PATTERN (give reference pattern or provide diagram)	8a. RECEIVING SYSTEM NOISE TEMPERATURE
<div style="border: 1px solid black; padding: 2px 5px;">R</div> <div style="border: 1px solid black; padding: 2px 5px;">E</div> <div style="border: 1px solid black; padding: 2px 5px;">C</div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;">S</div> <div style="border: 1px solid black; padding: 2px 5px;">4</div> <div style="border: 1px solid black; padding: 2px 5px;">6</div> <div style="border: 1px solid black; padding: 2px 5px;">5</div> <div style="border: 1px solid black; padding: 2px 5px;">-</div> <div style="border: 1px solid black; padding: 2px 5px;">5</div> <div style="border: 1px solid black; padding: 2px 5px;"> </div> <div style="border: 1px solid black; padding: 2px 5px;"> </div>	

 || 8b2. ANTENNA RADIATION DIAGRAM ATTACHED SEE FIGURE NO.: | |
| 2 0 0 Kelvins | |

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 22 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam								
b. TRANSMITTING BEAM DESIGNATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;">K2R</div>	NOTE: For a steerable beam, the third character of the beam designation shall be "R"								
	OLD BEAM DESIGNATION (if changed)	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>								
ANTENNA CHARACTERISTICS										
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="border-collapse: collapse; margin: auto;"> <tr> <td style="padding: 2px;">+/-</td> <td colspan="3" style="padding: 2px;">dBi</td> </tr> <tr> <td style="padding: 2px;">+</td> <td style="padding: 2px; text-align: center;">4</td> <td style="padding: 2px; text-align: center;">1</td> <td style="padding: 2px; text-align: center;">0</td> </tr> </table>	+/-	dBi			+	4	1	0	
+/-	dBi									
+	4	1	0							
g. POLARIZATION	<div style="border: 1px solid black; padding: 2px; display: inline-block;">D</div>	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO								
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">02</div>								
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO	<div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div>	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO								
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">03</div>								

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	<div>EC</div>	2b. NATURE OF SERVICE	<div>CR</div>	2a. CLASS OF STATION	<div></div>	2b. NATURE OF SERVICE	<div></div>
2a. CLASS OF STATION	<div></div>	2b. NATURE OF SERVICE	<div></div>	2a. CLASS OF STATION	<div></div>	2b. NATURE OF SERVICE	<div></div>

PERIOD OF VALIDITY

2	0
---	---

 Years

1. SERVICE AREA

SERVICE AREA DIAGRAM ATTACHED

0	2
---	---

3/Fd. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED

[illegible]

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

[illegible]

F. SPACE STATION CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS	ADD/MOD/SUP of the station <div style="float: right; border: 1px solid black; width: 30px; height: 30px; margin-top: 5px;"></div>
a. SPACE STATION NAME <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div>	

EARTH STATION	ADD/MOD/SUP of the station	<input type="checkbox"/>
DESIGNATION OF TYPICAL EARTH STATION		
2 4 0 c m T E R M I N A L		
8b1. RADIATION PATTERN (give reference pattern or provide diagram)		
R E C S 4 6 5 - 5		
8b2. ANTENNA RADIATION DIAGRAM ATTACHED		
	<input type="checkbox"/> <input type="checkbox"/>	
SEE FIGURE NO.:		
8a. RECEIVING SYSTEM NOISE TEMPERATURE		Kelvins
2 0 0		

MORE EMISSIONS ON NEXT PAGE

**MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE**

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE **23** OF **33**

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM				ADD/MOD/SUP of the beam <input type="checkbox"/>										
b. TRANSMITTING BEAM DESIGNATION		K2R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"											
		OLD BEAM DESIGNATION (if changed)		<input type="text"/>										
ANTENNA CHARACTERISTICS														
c1/d1/f1. MAXIMUM ISOTROPIC GAIN		<table border="1" style="display: inline-table;"> <tr><td>+/-</td><td colspan="4">dBi</td></tr> <tr><td>+</td><td>4</td><td>1</td><td>0</td><td>0</td></tr> </table>	+/-	dBi				+	4	1	0	0		
+/-	dBi													
+	4	1	0	0										
g. POLARIZATION		1 D		c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO										
				02										
e/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO				h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO										
				03										

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	EC	2b. NATURE OF SERVICE	CR	2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>	PERIOD OF VALIDITY	20 Years
2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>	2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>		
1. SERVICE AREA								OR SERVICE AREA DIAGRAM ATTACHED	
								02	
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED									
	Add/Mod/Sup of the freq. range	FREQUENCY		k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression				
FROM	<input type="text"/>	1700000		G					
TO	<input type="text"/>	2000000		G					

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
6a/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
125M/G7W	+/- dBW 0	+/- dBW/Hz -6000	+/- dBW 0	+/- dBW 0	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
250M/G7W	0	-6300	0	0	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE
STATIONS FOR SPACE-TO-SPACE RELAYSADD/MOD/SUP
of the station ☐

a. SPACE STATION NAME

G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.:1 MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE ☒

EARTH STATION

ADD/MOD/SUP
of the station ☐

DESIGNATION OF TYPICAL EARTH STATION

300cm TERMINAL

8b1. RADIATION PATTERN

(give reference pattern or provide diagram)

REC S465-58a. RECEIVING
SYSTEM NOISE
TEMPERATUREKelvins
2008b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
 FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 24 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>
b. TRANSMITTING BEAM DESIGNATION K2R NOTE: For a steerable beam, the third character of the beam designation shall be "R"		
OLD BEAM DESIGNATION (if changed) 		
ANTENNA CHARACTERISTICS		
c1/d1/f1. MAXIMUM ISOTROPIC GAIN + 4 1 0		
g. POLARIZATION D		
c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO. 02		
e/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO. 		
h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO. 03		

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION EC	2b. NATURE OF SERVICE CR	2a. CLASS OF STATION 	2b. NATURE OF SERVICE
2a. CLASS OF STATION 	2b. NATURE OF SERVICE 	2a. CLASS OF STATION 	2b. NATURE OF SERVICE
PERIOD OF VALIDITY 20 Years			
1. SERVICE AREA OR SERVICE AREA DIAGRAM ATTACHED 02			
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED			
	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz
FROM	 	 1700000	G
TO	 	 2000000	G

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
6/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
1 2 5 M G 7 W	 	- 6 0 0	 	 	
2 5 0 M G 7 W	 	- 6 3 0	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE
STATIONS FOR SPACE-TO-SPACE RELAYSADD/MOD/SUP
of the station ☐

a. SPACE STATION NAME

 G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.: MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE ☐

EARTH STATION

ADD/MOD/SUP
of the station ☐

DESIGNATION OF TYPICAL EARTH STATION

450cm TERMINAL8b1. RADIATION PATTERN
(give reference pattern or provide diagram)REC S465-58b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:8a. RECEIVING
SYSTEM NOISE
TEMPERATURE200

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.

FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 25 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>				
b. TRANSMITTING BEAM DESIGNATION	K1R	NOTE: For a steerable beam, the third character of the beam designation shall be "R"				
	OLD BEAM DESIGNATION (if changed)	<input type="text"/>				
ANTENNA CHARACTERISTICS						
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="margin: auto;"> <tr> <td style="width: 10%;">+/-</td> <td style="width: 10%;">dBi</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">440</td> </tr> </table>	+/-	dBi	+	440	
+/-	dBi					
+	440					
g. POLARIZATION	1 D					
		c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO 01				
e1/2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO	<input type="text"/>	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO 03				

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	ER	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION	EK	2b. NATURE OF SERVICE	OT	PERIOD OF VALIDITY 20 Years
2a. CLASS OF STATION	ET	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>	
1. SERVICE AREA <input type="text"/>								OR SERVICE AREA DIAGRAM ATTACHED 01
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED								
	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression				
FROM	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				
TO	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>				

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO. 1
6/a3. NECESSARY BANDWIDTH OR Fd/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
	+/- dBW	+/- dBW/Hz	+/- dBW	+/- dBW	
600KG7D	-470	-470	-470	-470	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS

ADD/MOD/SUP of the station ☐

a. SPACE STATION NAME

G3c. BEACON AND TELEMETRY INFORMATION ATTACHED. SEE ATTACHMENT NO.: MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE ☐

EARTH STATION

ADD/MOD/SUP of the station ☐

DESIGNATION OF TYPICAL EARTH STATION

TT&C STATION

8b1. RADIATION PATTERN

(give reference pattern or provide diagram)

REC S465-5

8a. RECEIVING SYSTEM NOISE TEMPERATURE

Kelvins **200**8b2. ANTENNA RADIATION DIAGRAM ATTACHED SEE FIGURE NO.:

REMARKS: Maximum power density signals, as given in item 4a1/G3b above, will only be transmitted when operating with a transmit beam that provides greater than 25° elevation angle within its -10 dB gain contour. Maximum power density will be correspondingly reduced for lower elevation angles, in order to comply with the PFD limits of Article 28 of the RR.

NOTES ON FILLING IN THIS PAGE:

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D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE **26** OF **33**

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM				ADD/MOD/SUP of the beam <input type="checkbox"/>				
b. TRANSMITTING BEAM DESIGNATION		SER	NOTE: For a steerable beam, the third character of the beam designation shall be 'R'					
		OLD BEAM DESIGNATION (if changed) 						
ANTENNA CHARACTERISTICS								
c1/d1/f1. MAXIMUM ISOTROPIC GAIN		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">+/-</td> <td style="padding: 2px 5px;">dBi</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">55●0</td> </tr> </table>	+/-	dBi	+	55●0		
+/-	dBi							
+	55●0							
g. POLARIZATION		1 D	c2/f2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO. 					
a/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO.		04	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO. 					

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	ES	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	
2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	 	2a. CLASS OF STATION	 	2b. NATURE OF SERVICE	
PERIOD OF VALIDITY							20 Years
1. SERVICE AREA							OR SERVICE AREA DIAGRAM ATTACHED 04
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED							
	Add/Mod/Sup of the freq. range	FREQUENCY	K/MG Hz	IFRB IDENTIFICATION NUMBER for modification/suppression			
FROM	 	59●000000	G	 			
TO	 	64●000000	G	 			

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO. 1
6/f4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
	+/- dBW	+/- dBW/Hz	+/- dBW	+/- dBW	
1G00G7W	 	-70●0	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	
 	 	 	 	 	

F. SPACE STATION CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS ADD/MOD/SUP of the station <input type="checkbox"/> a. SPACE STATION NAME USASAT- at 29°W G3c. BEACON AND TELEMETRY INFORMATION ATTACHED. SEE ATTACHMENT NO.: MORE EMISSIONS ON NEXT PAGE <input type="checkbox"/> MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE <input type="checkbox"/>	EARTH STATION ADD/MOD/SUP of the station <input type="checkbox"/> DESIGNATION OF TYPICAL EARTH STATION 8b1. RADIATION PATTERN (give reference pattern or provide diagram) 8b2. ANTENNA RADIATION DIAGRAM ATTACHED SEE FIGURE NO.: 8a. RECEIVING SYSTEM NOISE TEMPERATURE Kelvins
---	---

REMARKS:

NOTES ON FILLING IN THIS PAGE:

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PAGE 27 OF 33

5. CHARACTERISTICS OF THE BEAM

ADD/MOD/SUP
of the beam

b. TRANSMITTING BEAM DESIGNATION

SER

NOTE: For a steerable beam, the third character of the beam designation shall be "R".

OLD BEAM DESIGNATION (if changed)

ANTENNA CHARACTERISTICS

c1/d1/f1. MAXIMUM ISOTROPIC GAIN

+/-	dBi			
+	5	5	●	0

g. POLARIZATION

1	D				
---	---	--	--	--	--

2/02. ANTENNA GAIN CONTOURS DIAGRAM
ATTACHED SEE FIGURE NO

012. ANTENNA RADIATION PATTERN DIAGRAM
ATTACHED SEE FIGURE NO

0	4
---	---

h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO

2a. CLASS OF STATION	ES	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION		2b. NATURE OF SERVICE	
2a. CLASS OF STATION		2b. NATURE OF SERVICE		2a. CLASS OF STATION		2b. NATURE OF SERVICE	

PERIOD OF VALIDITY

2	0
---	---

 Years

1. SERVICE AREA

SERVICE AREA DIAGRAM ATTACHED

0	4
---	---

[illegible][illegible]

F. SPACE STATION

CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS

ADD/MOD/SUP
of the station

a. SPACE STATION NAME

U	S	A	S	A	T	-					a	t			2	9	°	W
---	---	---	---	---	---	---	--	--	--	--	---	---	--	--	---	---	---	---

G3c. BEACON AND TELEMETRY INFORMATION
ATTACHED. SEE ATTACHMENT NO.:

MORE EMISSIONS ON NEXT PAGE

**MORE ASSOC. RECEIVING
STATIONS ON NEXT PAGE**

EARTH STATION

ADD/MOD/SUP
of the station

DESIGNATION OF TYPICAL EARTH STATION

[illegible]

8b1. RADIATION PATTERN
(give reference pattern or provide diagram)

8a. RECEIVING
SYSTEM NOISE
TEMPERATURE

8b2. ANTENNA RADIATION DIAGRAM ATTACHED
SEE FIGURE NO.:

Kelvin				

REMARKS:

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 28 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>									
b. TRANSMITTING BEAM DESIGNATION	SWR	NOTE: For a steerable beam, the third character of the beam designation shall be "R"									
OLD BEAM DESIGNATION (if changed)		<input type="text"/>									
ANTENNA CHARACTERISTICS											
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="margin: auto;"> <tr><td>+</td><td>-</td><td>dBi</td></tr> <tr><td>+</td><td>5</td><td>5</td></tr> <tr><td></td><td>0</td><td>0</td></tr> </table>	+	-	dBi	+	5	5		0	0	
+	-	dBi									
+	5	5									
	0	0									
g. POLARIZATION	D	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO. <input type="text"/>									
e/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO.	04	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO. <input type="text"/>									

INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM

2a. CLASS OF STATION	ES	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>
2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>	2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>
PERIOD OF VALIDITY							20 Years
1. SERVICE AREA							OR SERVICE AREA DIAGRAM ATTACHED 04
3/Fd. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED							
	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression			
FROM	<input type="text"/>	59000000	G	<input type="text"/>			
TO	<input type="text"/>	64000000	G	<input type="text"/>			

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION

EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO. 1
6/4a3. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
	+/- dBW	+/- dBW/Hz	+/- dBW	+/- dBW	
1G00G7W	0	-7000	0	0	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

F. SPACE STATION ADD/MOD/SUP of the station ☐

CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS

a. SPACE STATION NAME

USASAT- at 168°E

G3c. BEACON AND TELEMETRY INFORMATION ATTACHED. SEE ATTACHMENT NO.:

EARTH STATION ADD/MOD/SUP of the station ☐

DESIGNATION OF TYPICAL EARTH STATION

8b1. RADIATION PATTERN (give reference pattern or provide diagram)

8a. RECEIVING SYSTEM NOISE TEMPERATURE

Kelvins

8b2. ANTENNA RADIATION DIAGRAM ATTACHED SEE FIGURE NO.:

MORE EMISSIONS ON NEXT PAGE ☐MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE ☐

REMARKS:

NOTES ON FILLING IN THIS PAGE :

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'. FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

D: SATELLITE NETWORK CHARACTERISTICS IN THE SPACE-TO-EARTH DIRECTION

PAGE 29 OF 33

SATELLITE TRANSMITTING ANTENNA BEAM DETAILS

5. CHARACTERISTICS OF THE BEAM		ADD/MOD/SUP of the beam <input type="checkbox"/>				
b. TRANSMITTING BEAM DESIGNATION	SWR	NOTE: For a steerable beam, the third character of the beam designation shall be "R"				
OLD BEAM DESIGNATION (if changed)		<input type="text"/>				
ANTENNA CHARACTERISTICS						
c1/d1/f1. MAXIMUM ISOTROPIC GAIN	<table border="1" style="display: inline-table;"> <tr> <td>+/-</td> <td>dB</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">550</td> </tr> </table>	+/-	dB	+	550	
+/-	dB					
+	550					
g. POLARIZATION	1 <input type="text"/>	c2/d2. ANTENNA GAIN CONTOURS DIAGRAM ATTACHED SEE FIGURE NO. <input type="text"/>				
e/f2. ANTENNA RADIATION PATTERN DIAGRAM ATTACHED SEE FIGURE NO.	04	h. ESTIMATED ANTENNA GAIN DIAGRAM VS ORBIT LONGITUDE ATTACHED SEE FIGURE NO. <input type="text"/>				

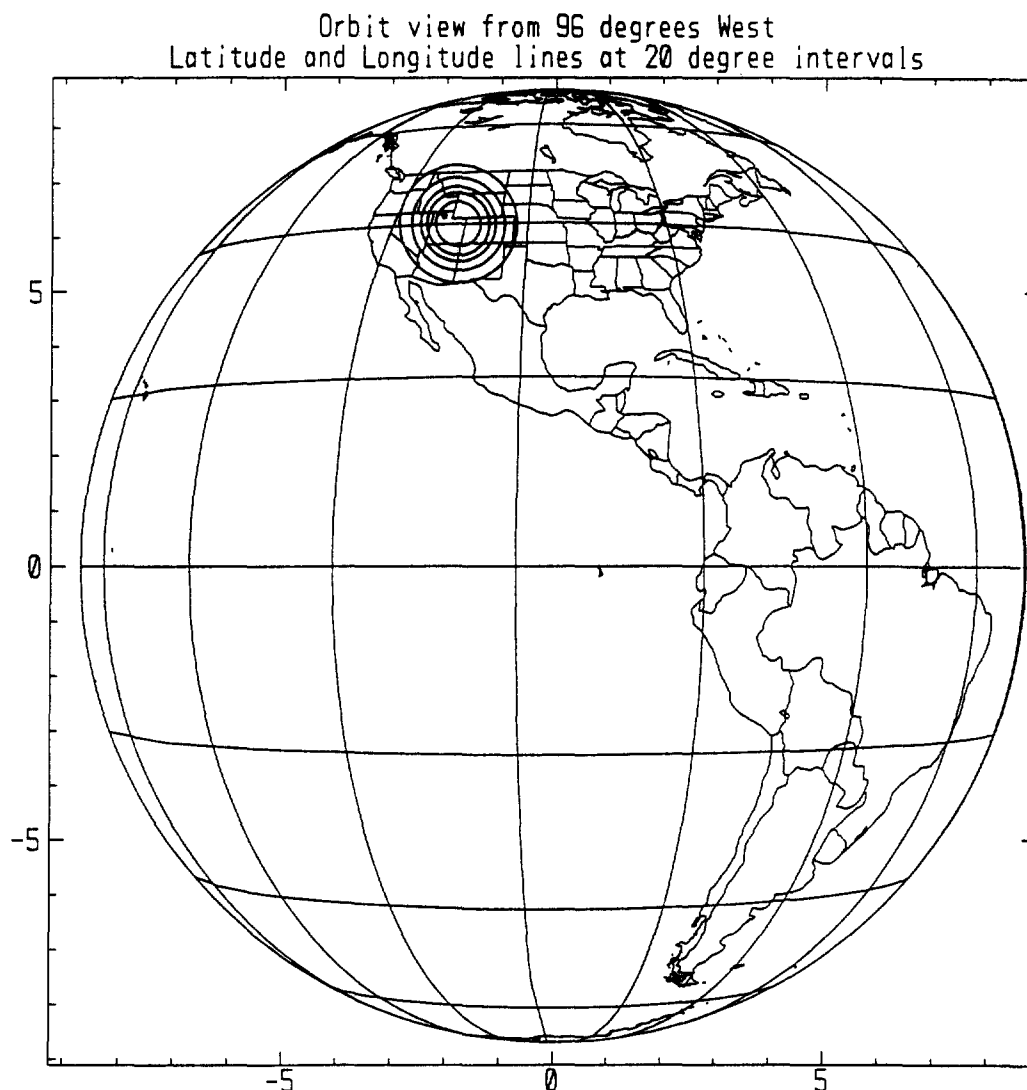
INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM					
2a. CLASS OF STATION	ES	2b. NATURE OF SERVICE	OT	2a. CLASS OF STATION	<input type="text"/>
2a. CLASS OF STATION	<input type="text"/>	2b. NATURE OF SERVICE	<input type="text"/>	2a. CLASS OF STATION	<input type="text"/>
				PERIOD OF VALIDITY	20 Years
1. SERVICE AREA				SERVICE AREA DIAGRAM ATTACHED 04	
3/fb. FREQUENCY RANGE WITHIN WHICH THE CARRIERS WILL BE LOCATED					
	Add/Mod/Sup of the freq. range	FREQUENCY	k/M/G Hz	IFRB IDENTIFICATION NUMBER for modification/suppression	
FROM	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
TO	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

SPACE STATION EMISSIONS AND ASSOCIATED RECEIVING STATION(S) INFORMATION					
EMISSIONS AND POWER CHARACTERISTICS					8. MODULATION CHARACTERISTICS ATTACHED SEE ATTACHMENT NO.
6/a43. NECESSARY BANDWIDTH OR Fc/G3a. DESIGNATION OF EMISSION	4a2/4b. TOTAL PEAK POWER	4a1/G3b. MAXIMUM POWER DENSITY	4c. MINIMUM CARRIER POWER	Fd. SPACE STATION E.I.R.P.	
+/-	dBW	+/-	dBW/Hz	+/-	dBW
1G00G7W	<input type="text"/>	-7000	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
F. SPACE STATION					ADD/MOD/SUP of the station <input type="checkbox"/>
CHARACTERISTICS OF RECEIVING SPACE STATIONS FOR SPACE-TO-SPACE RELAYS					
a. SPACE STATION NAME					
USASAT - <input type="text"/> at 168°E					
G3c. BEACON AND TELEMETRY INFORMATION ATTACHED. SEE ATTACHMENT NO.: 1 <input type="text"/>					
EARTH STATION					ADD/MOD/SUP of the station <input type="checkbox"/>
DESIGNATION OF TYPICAL EARTH STATION					
<input type="text"/>					
8b1. RADIATION PATTERN (give reference pattern or provide diagram)					8a. RECEIVING SYSTEM NOISE TEMPERATURE
<input type="text"/>					Kelvins
8b2. ANTENNA RADIATION DIAGRAM ATTACHED SEE FIGURE NO.: <input type="text"/>					<input type="text"/>
MORE EMISSIONS ON NEXT PAGE <input type="checkbox"/>					MORE ASSOC. RECEIVING STATIONS ON NEXT PAGE <input type="checkbox"/>
REMARKS:					

NOTES ON FILLING IN THIS PAGE:

FOR EACH BEAM FIRST FILL IN THE BOX TITLED 'CHARACTERISTICS OF THE BEAM'.
 FOR EACH SPACE-TO-EARTH SERVICE AREA ASSOCIATED WITH THIS BEAM, FILL IN THE UPPER PORTION OF THE BOX TITLED 'INFORMATION TO BE PROVIDED FOR THIS TRANSMITTING ANTENNA BEAM'. ALSO PROVIDE THE 'EMISSION AND POWER CHARACTERISTICS' FOR THIS TRANSMITTING ANTENNA BEAM. FOR EACH SIZE (TYPE) OF RECEIVING EARTH STATION PROVIDE THE EARTH STATION DETAILS AS SPECIFIED. IF THIS IS A SPACE-TO-SPACE RELAY, IDENTIFY THE OTHER SPACE STATION(S) IN THE BOX TITLED 'SPACE STATION'. USE AS MANY PAGES AS NECESSARY.

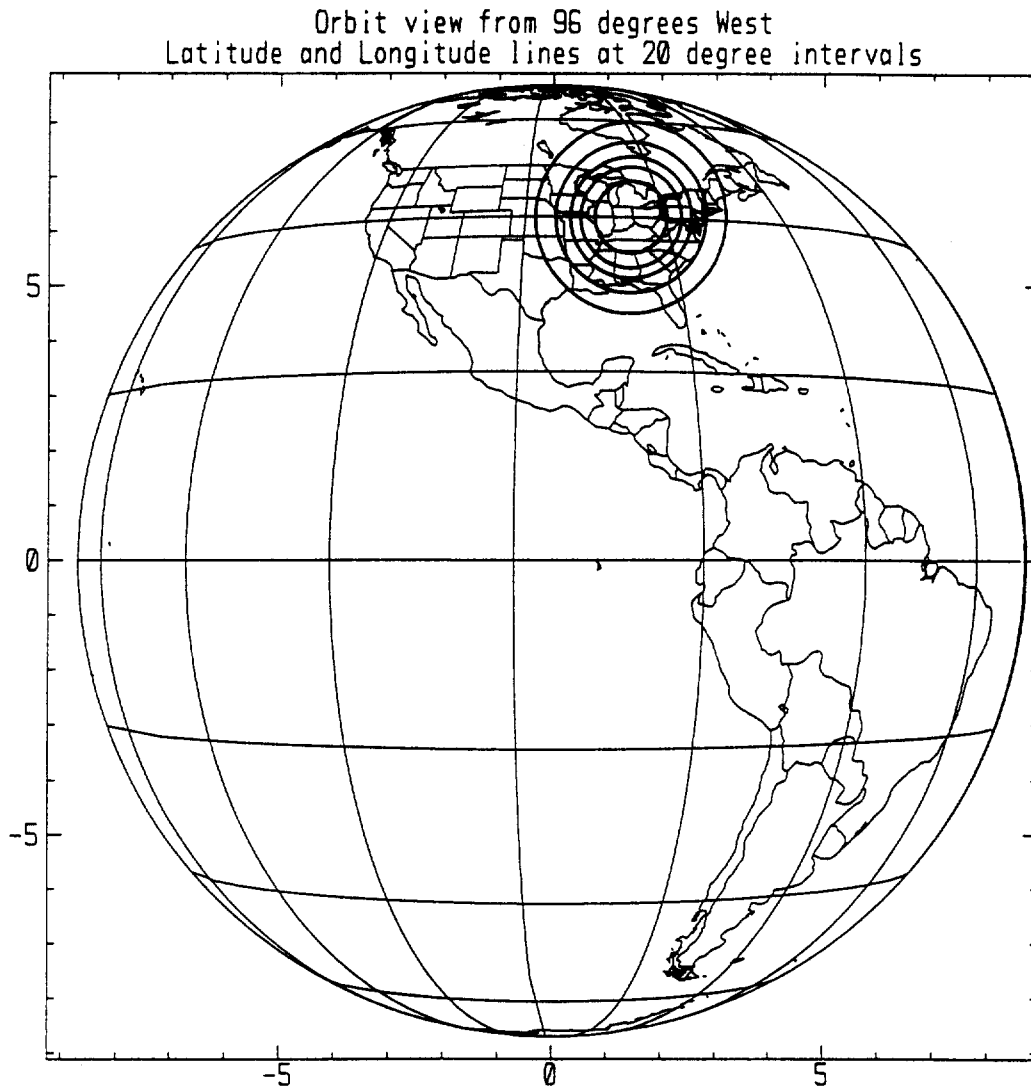
FIGURE 01
SPACE STATION RECEIVING AND TRANSMITTING
ANTENNA GAIN CONTOURS FOR BEAM "K1R"



Notes:

1. The space station antenna coverage actually consists of multiple overlapping spot-beams, designed to cover all the visible land areas, and capable of being pointed to any part of the visible Earth's surface. Only one such typical spot-beam is shown as an example. All beams may operate at all associated assigned frequencies.
2. Service area consists of all visible land areas of the Earth.
3. Maximum isotropic gain is +44.0 dBi.
4. Contours shown are -2, -4, -6, -10 and -20 dB relative to maximum gain.
5. Does not include antenna pointing error which is $\pm 0.15^\circ$ worst case.

FIGURE 02
SPACE STATION RECEIVING AND TRANSMITTING
ANTENNA GAIN CONTOURS FOR BEAM "K2R"



Notes:

1. The space station antenna coverage actually consists of a steerable beam, capable of being pointed to any part of the visible Earth's surface.
2. Service area consists of all visible land areas of the Earth.
3. Maximum isotropic gain is +41.0 dBi.
4. Contours shown are -2, -4, -6, -10 and -20 dB relative to maximum gain.
5. Does not include antenna pointing error which is $\pm 0.15^\circ$ worst case.

FIGURE 03
GAIN TOWARDS GEOSTATIONARY SATELLITE ORBIT
FOR BEAMS "K1R" AND "K2R"

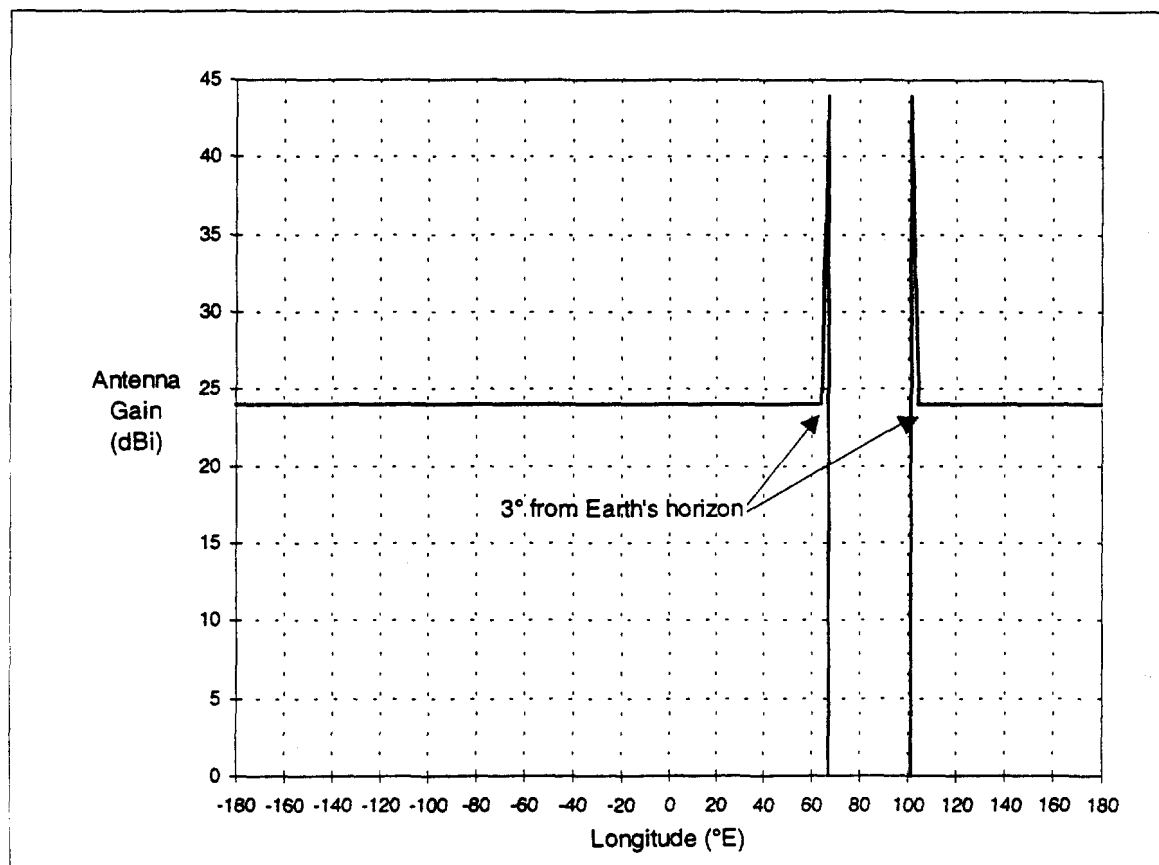


FIGURE 04
SPACE STATION ANTENNA RADIATION PATTERN
FOR BEAMS "SER" AND "SWR"

Angle from Boresight (°)	Maximum Gain (dBi)
-180	+30
all angles from -180 to -2	+30
-2.0	+30
-1.7	+35
-1.5	+40
-1.3	+45
-1.0	+50
-0.5	+53
0.0	+55
0.5	+53
1.0	+50
1.3	+45
1.5	+40
1.7	+35
2.0	+30
all angles from 2 to 180	+30
180	+30

Notes:

1. Antenna is rotationally symmetric.
2. Nominal boresight directions are as follows:
 Beam SER: 29°W geostationary orbit
 Beam SWR: 168°E geostationary orbit.
3. Service area is within $\pm 2^\circ$ of boresight.
4. Beam is steerable.